

Applicant: Dubé et al.  
Title: INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
Docket No.: DR-352J  
Attorney: Roy J. Coleman, Reg. No. 48,863  
Page 1 of 14

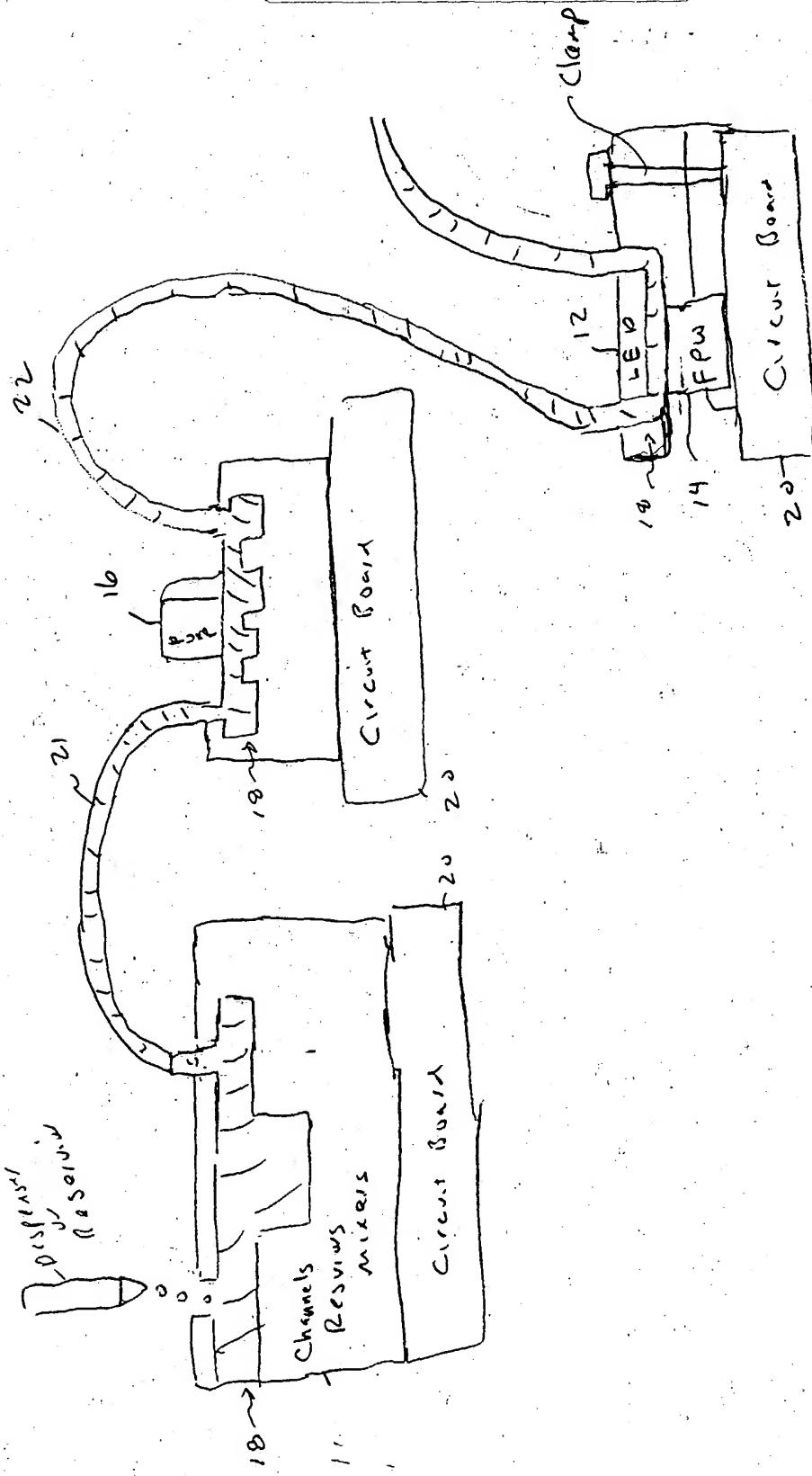


Fig. 1 (Prior Art)

**Applicant:** Dubé *et al.*  
**Title:** INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
**Docket No.:** DR-352J  
**Attorney:** Roy J. Coleman, Reg. No. 48,863  
**Page 2 of 14**

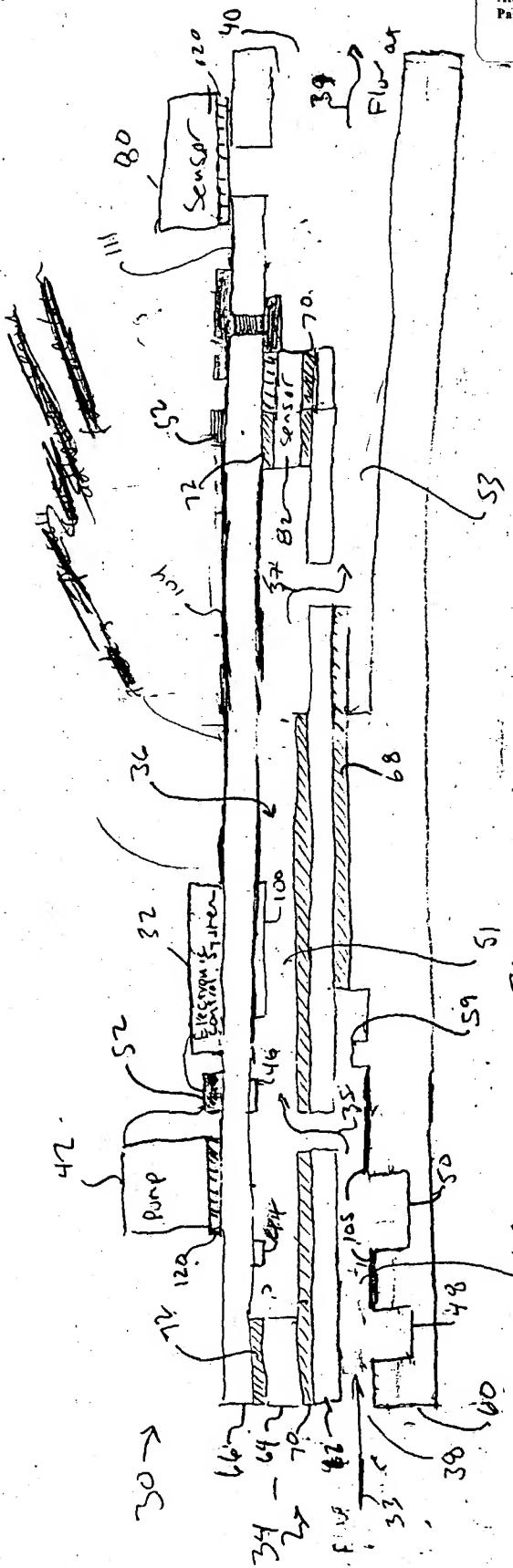


Fig. 2A

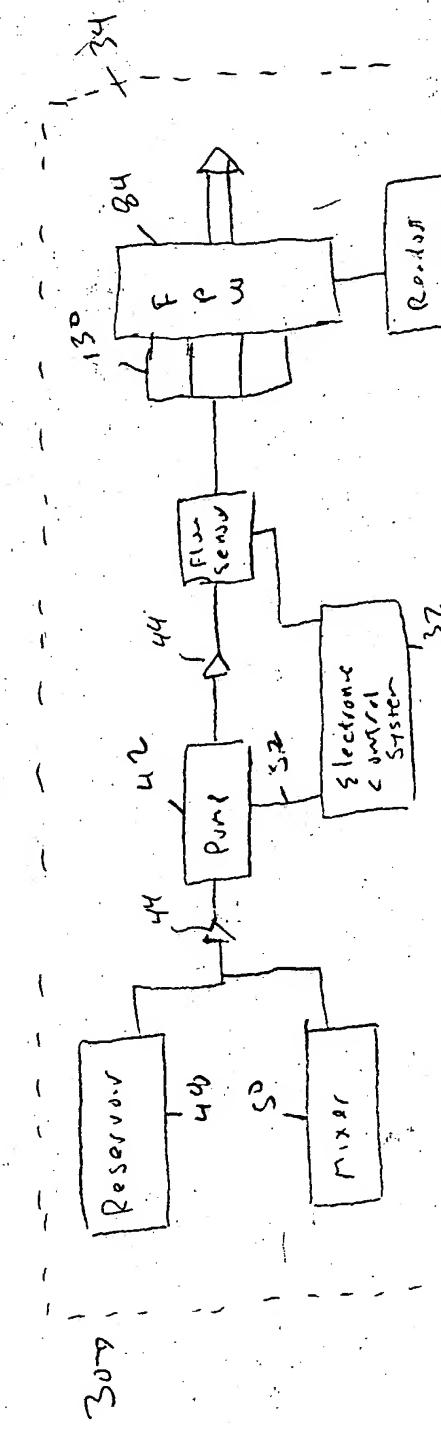
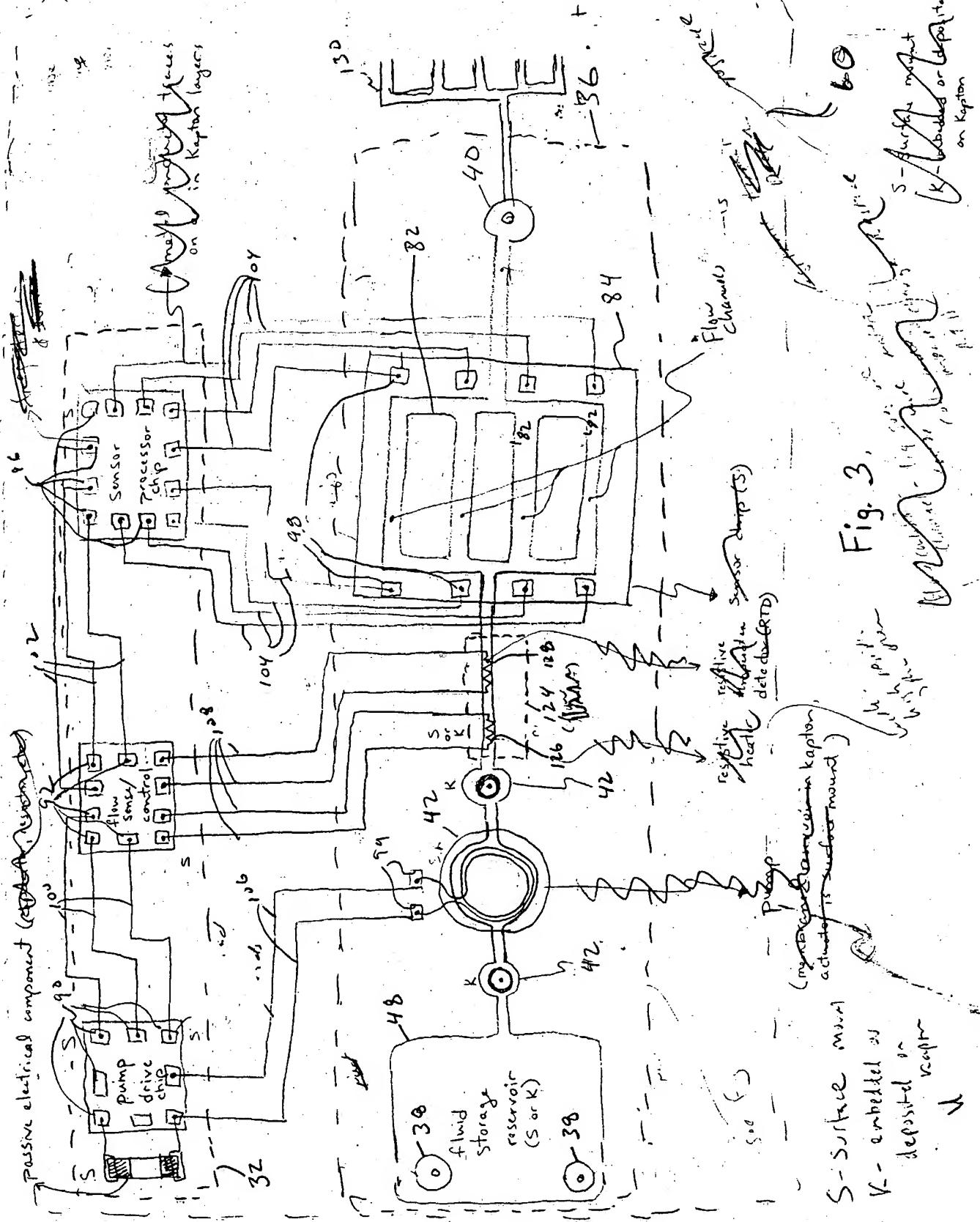
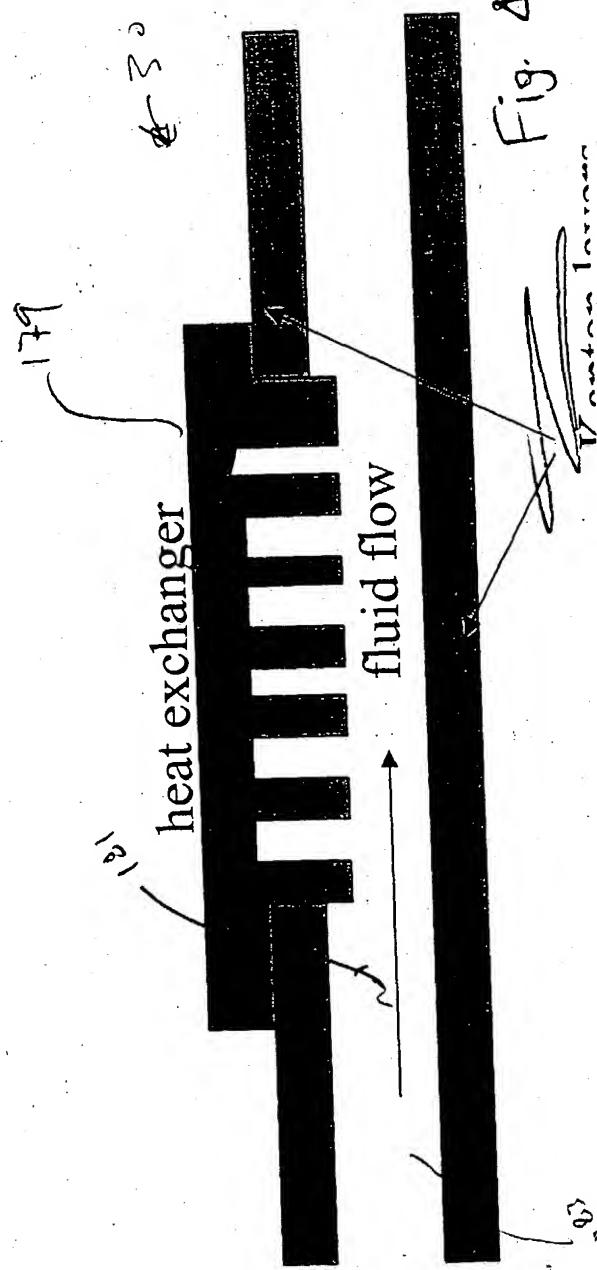


Fig. 28



Applicant: Dubé et al.  
Title: INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
Docket No.: DR-352J  
Attorney: Roy J. Coleman, Reg. No. 48,863  
Page 4 of 14

illustration of integrated heat exchanger



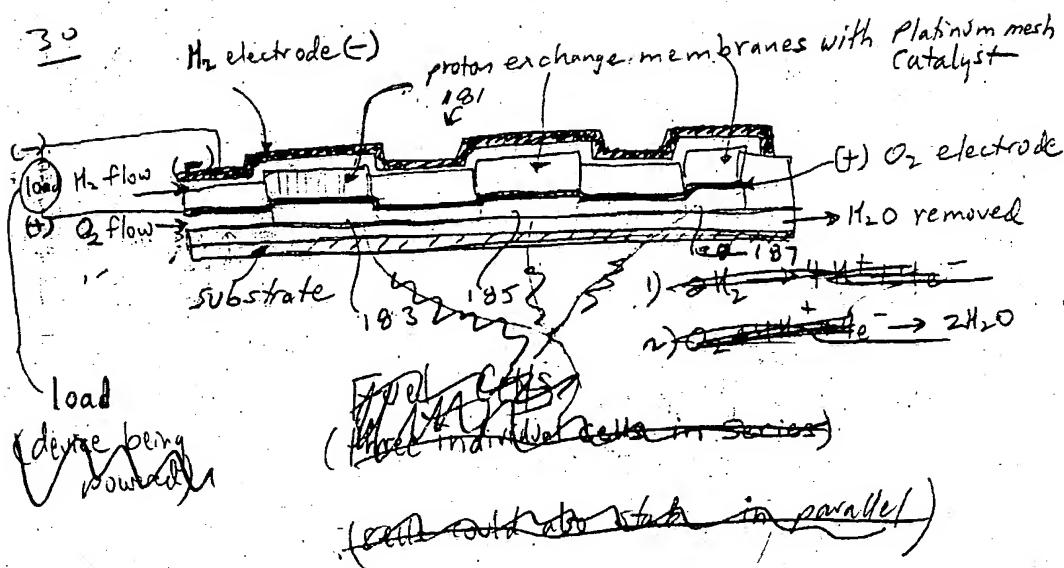


Fig. 5

FIGURATION METHOD

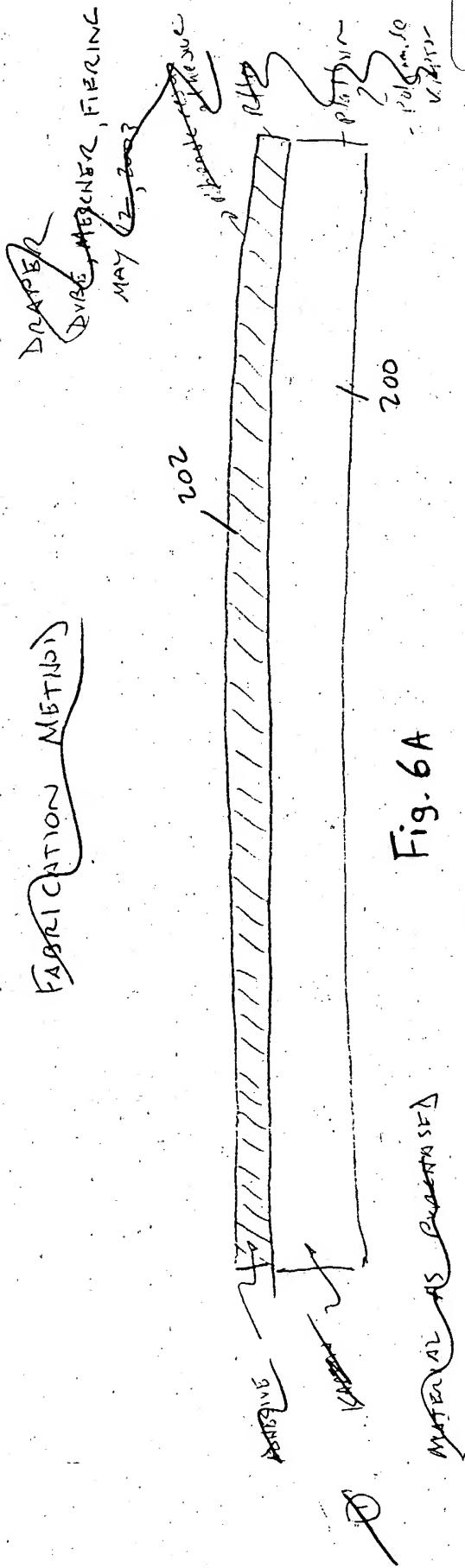


Fig. 6A

MATERIALS AND EQUIPMENT

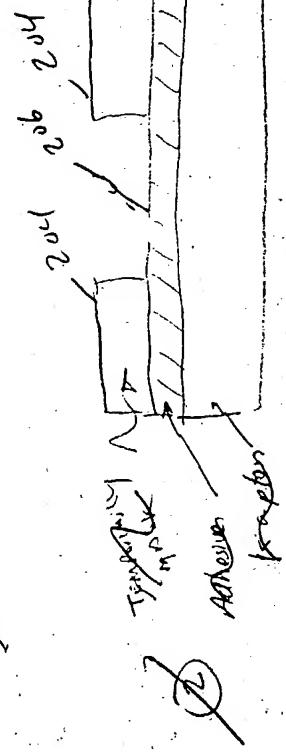
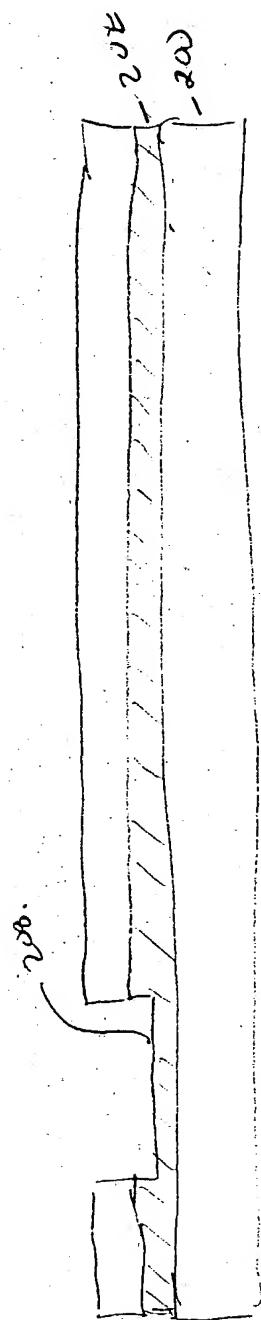


Fig. 6B



③ RESIST ETCH PIECES (REACTIVE ION ETCH)

Fig. 6C

(1)

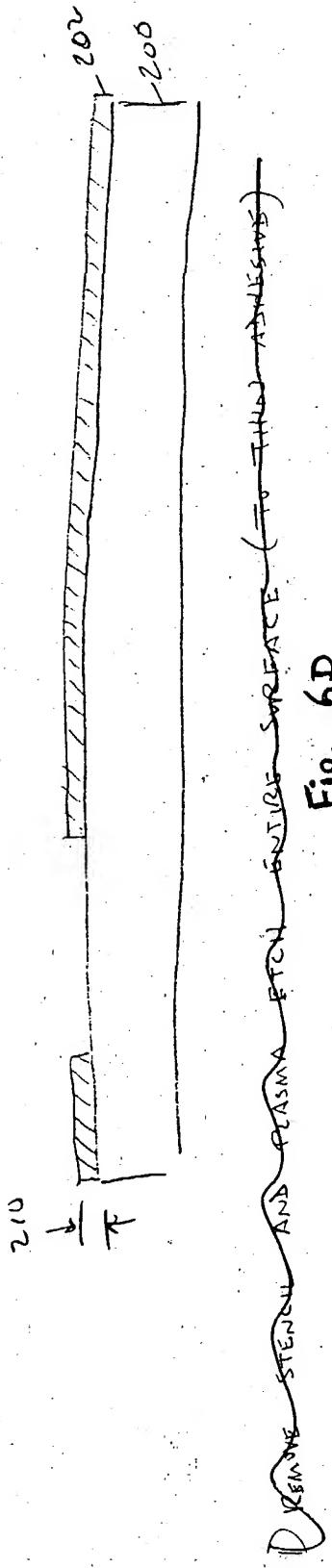


Fig. 6D

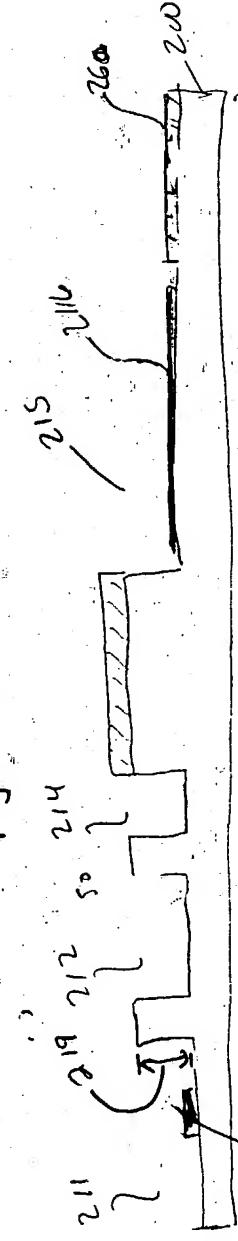


Fig. 6E

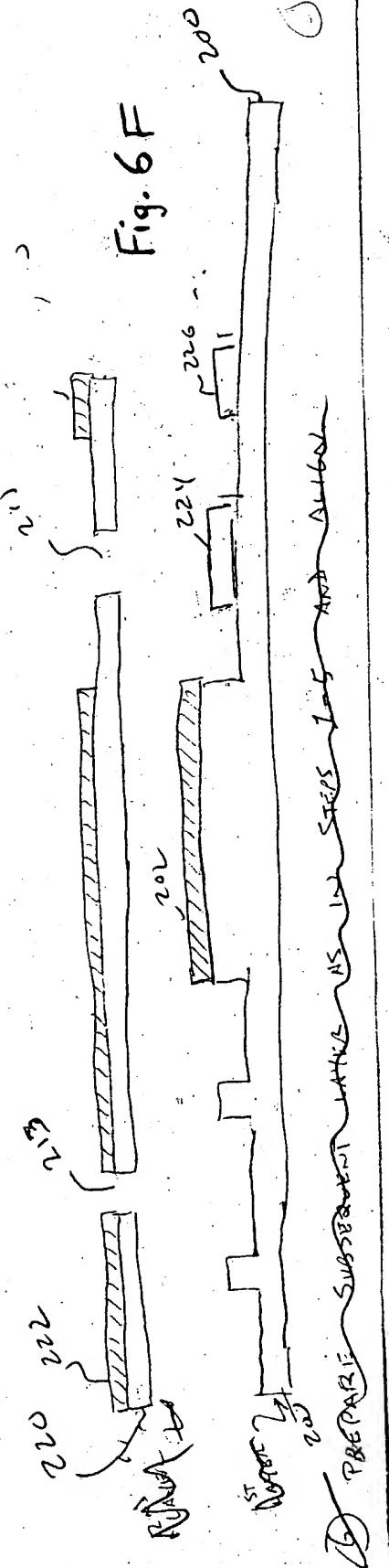
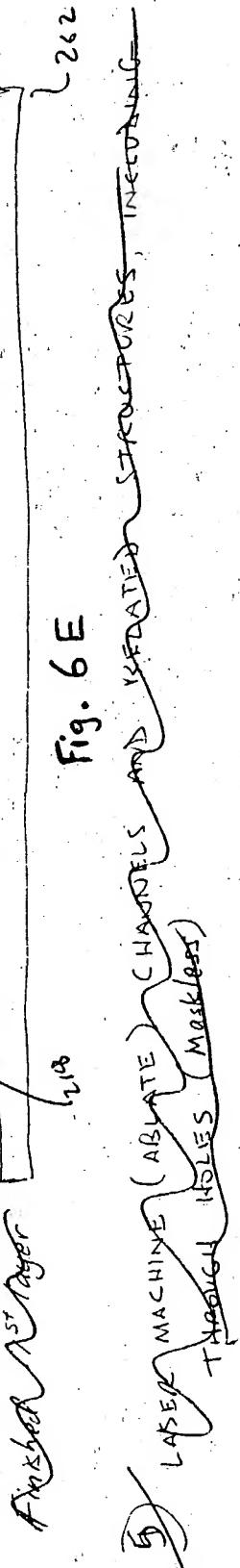


Fig. 6F

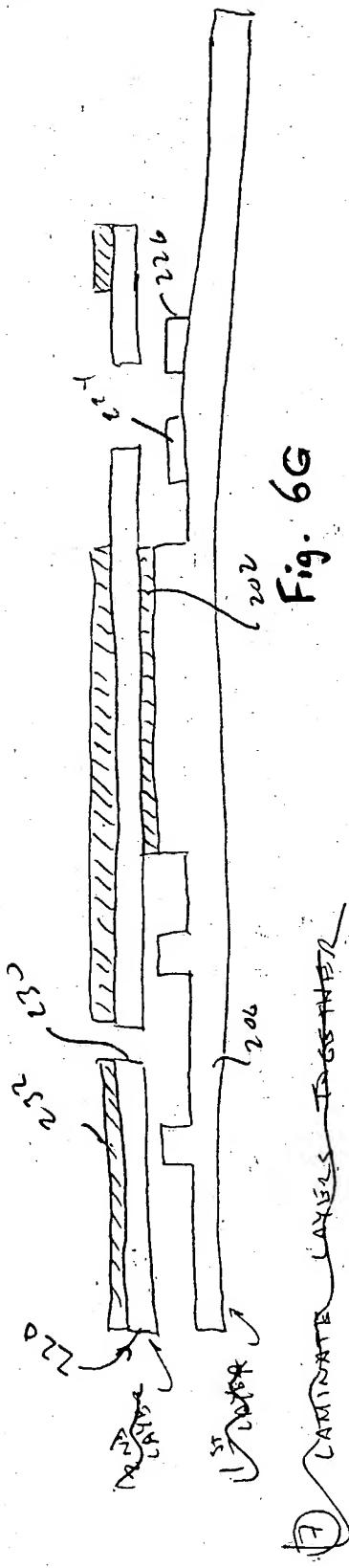


Fig. 6G

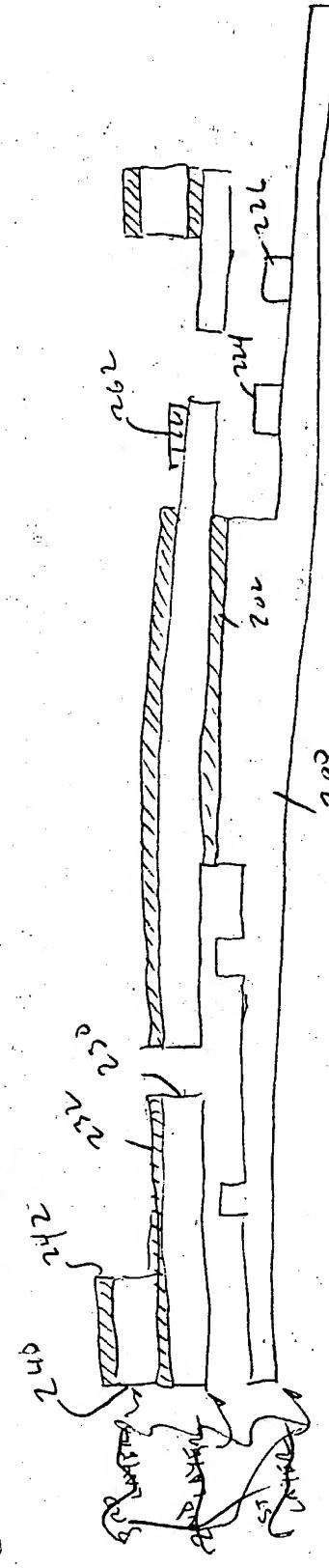


Fig. 6H

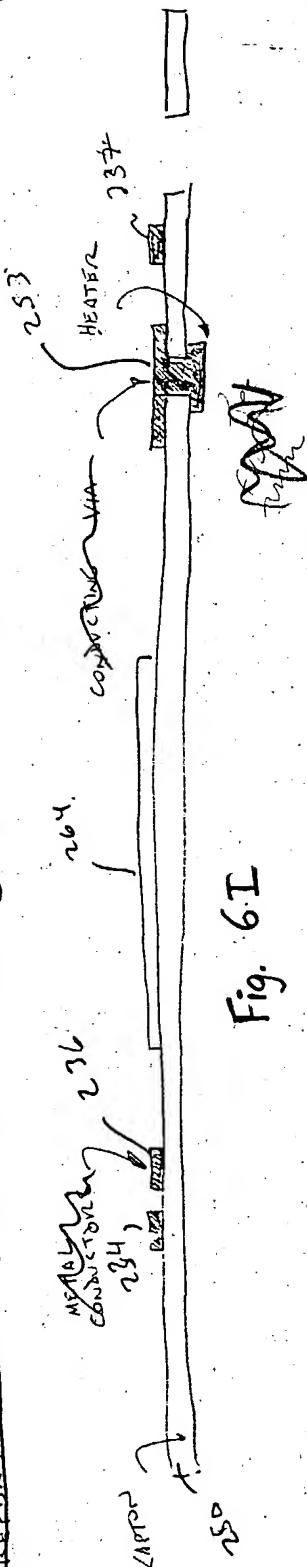


Fig. 6.1

① PREPARATION TOP LAYER WITH METAL CONCRETES AS STANDARD WAS STRIPPED BY TECHNICAL Y

Applicant: *Dubé et al.*  
Title: INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
Docket No.: DR-352J  
Attorney: Roy J. Coleman, Reg. No. 48,863  
Page 9 of 14

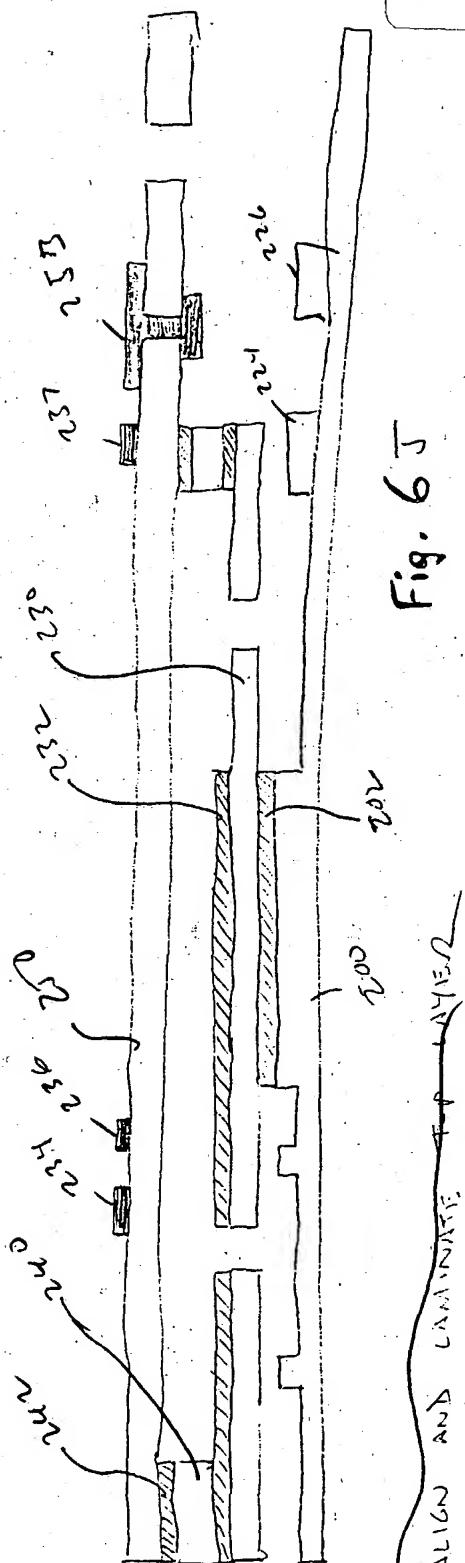
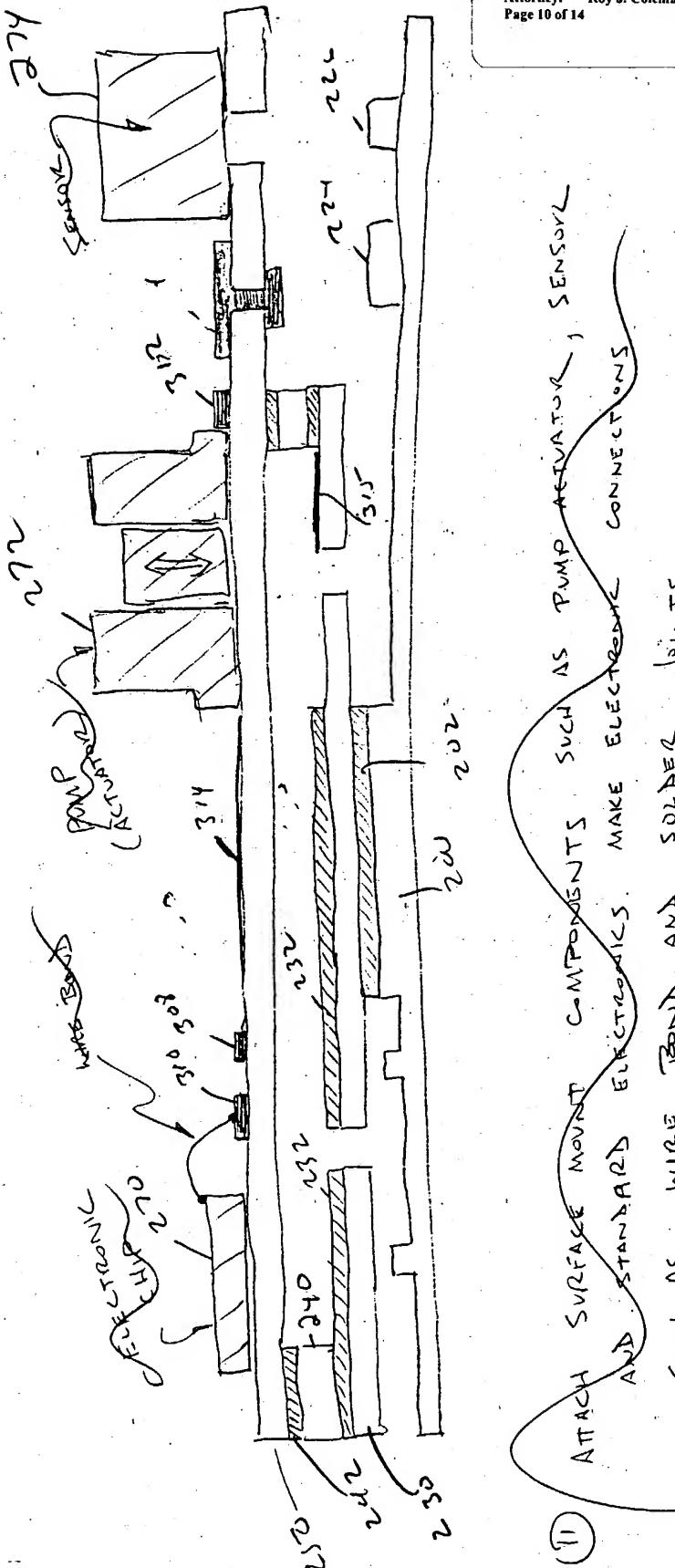


Fig. 6  $\overline{J}$



(1) ATTACH SURFACE MOUNT COMPONENTS SUCH AS PUMP ACTUATOR, SENSOR AND STANDARD ELECTRONICS. MAKE ELECTRICAL CONNECTIONS  
 SUCH AS WIRE BOND AND SOLDER JOINTS

Fig. 6K

**Applicant:** Dubé *et al.*  
**Title:** INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
**Docket No.:** DR-352J  
**Attorney:** Roy J. Coleman, Reg. No. 48,863  
Page 11 of 14

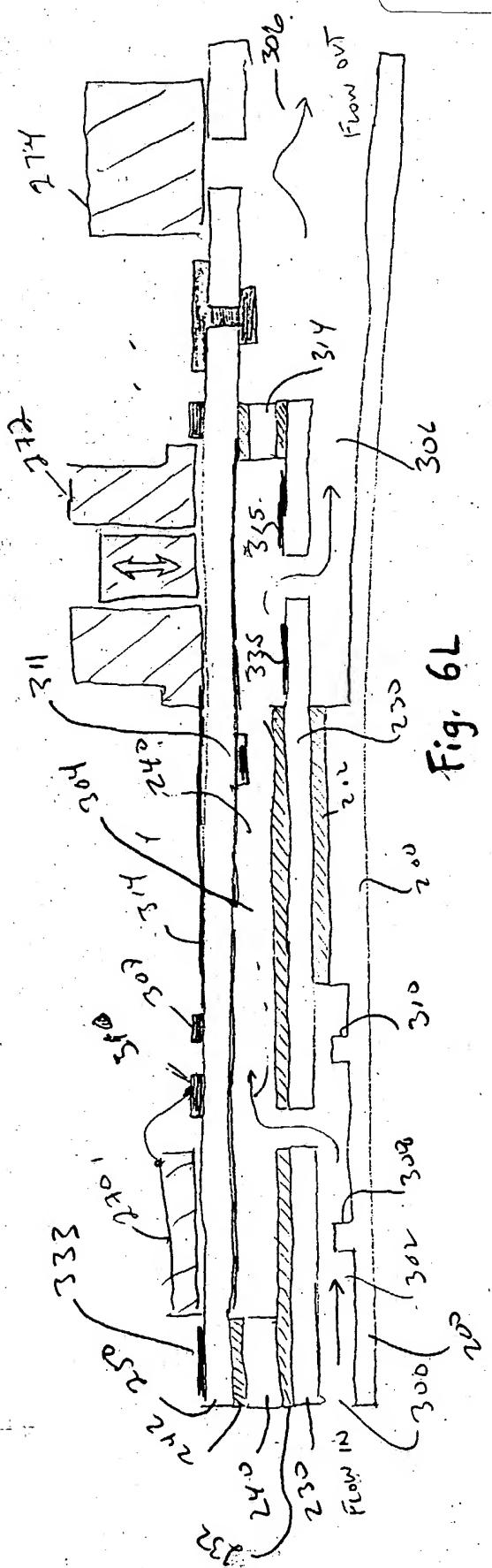


Fig. 6L

12. *Convolvulus* *whistler*

DUBÉ, MÉCHIN, TÉRING  
May 12, 2003

FABRICATION METHOD: DETAIL OF LAMINATING AN ELECTRO-FLUIDIC COMPONENT INTO THE ELECTRO-FLUIDIC SYSTEM

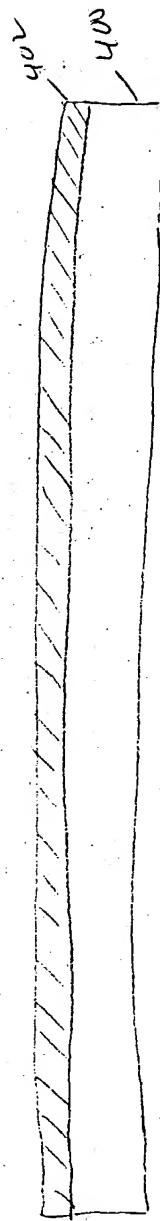


Fig. 7A

MATRIX AS PURCHASED

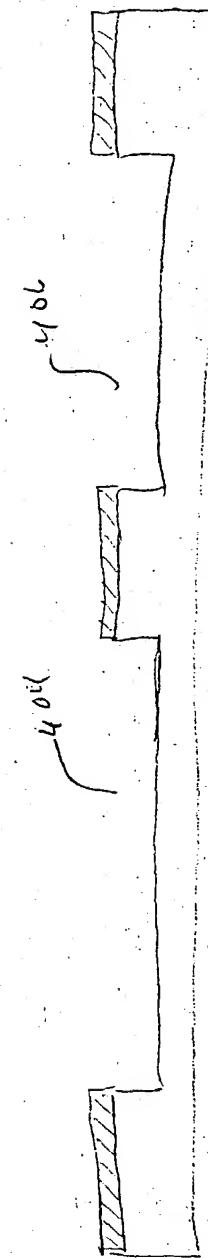


Fig. 7B

LAMINATING CHANNELS

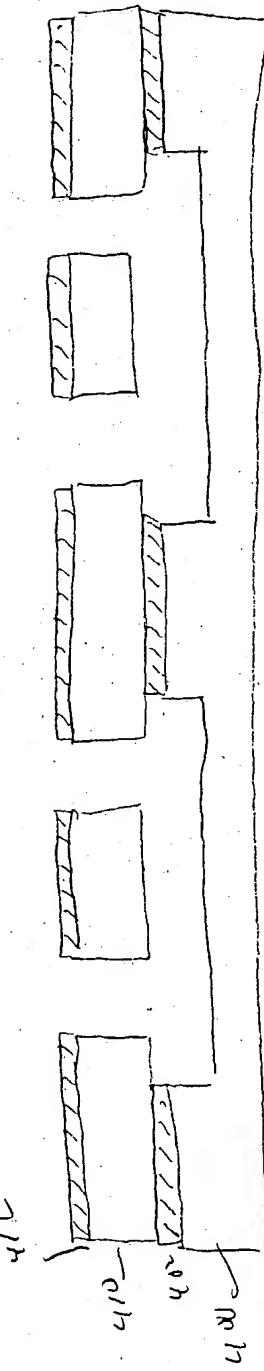
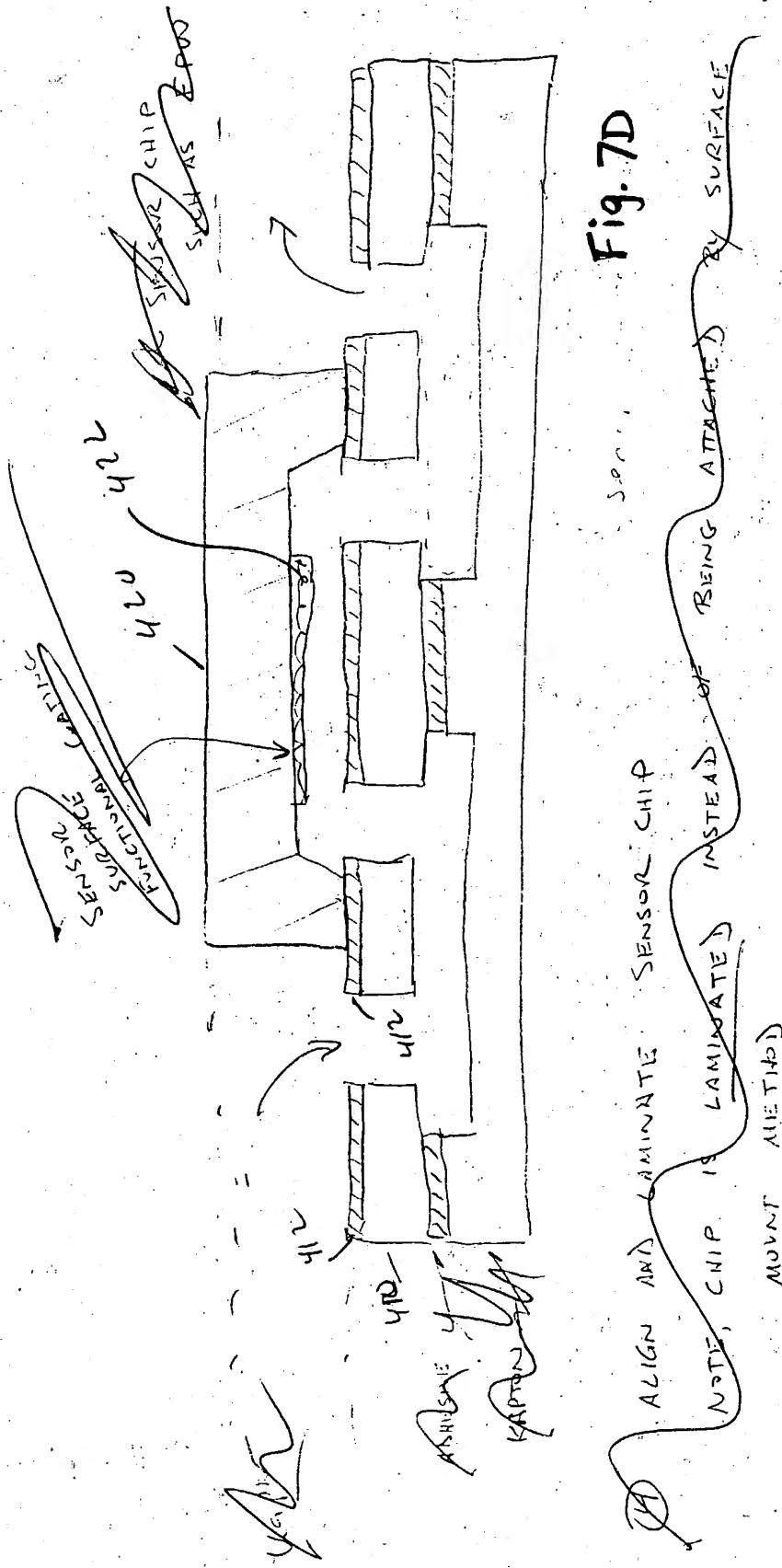
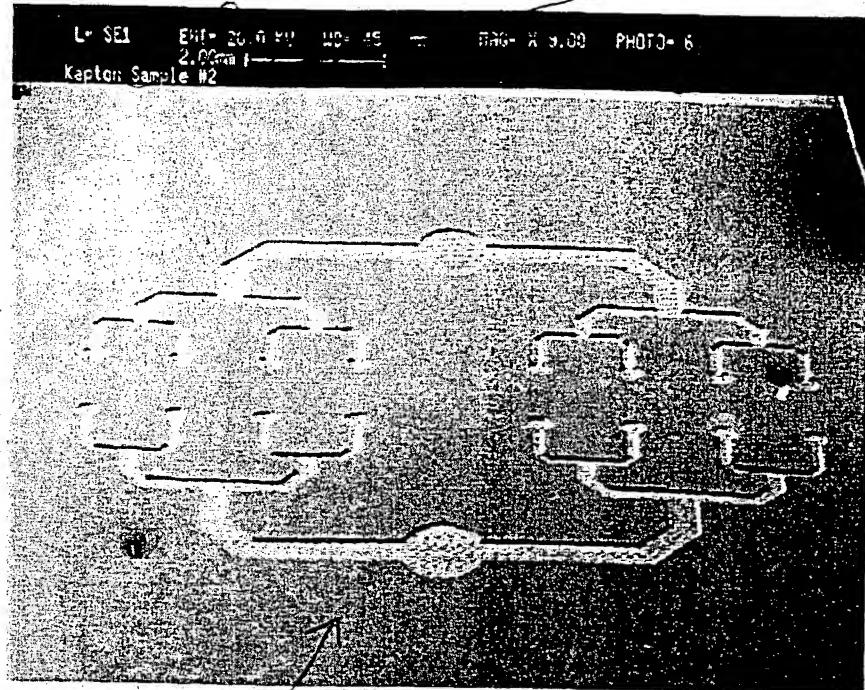


Fig. 7C

③ REPEAT AND LAMINATE FOR NEXT LAYERS



Applicant: Dubé et al.  
Title: INTEGRATED ELECTROFLUIDIC SYSTEM AND  
METHOD  
Docket No.: DR-352J  
Attorney: Roy J. Coleman, Reg. No. 48,863  
Page 14 of 14



223

Fig. 8